NEVADA COUNTY SANITATION DISTRICT NO. 1

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July 21, 2009

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Betty Yee
California Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670-6114

SUBJECT: Nevada County Sanitation District No. 1 Comments on Basin Plan Triennial Review

Dear Ms. Yee:

Nevada County Sanitation District No. 1 appreciates the opportunity to comment on the California Regional Water Quality Control Board- Central Valley Region Basin Plan Triennial Review.

Background:

Small rural communities that operate wastewater treatment plants in California are facing a problem that is quickly escalating into a crisis. Although most of these communities have demonstrated a commitment to clean water, they are increasingly faced with wastewater regulations requiring high-tech, expensive compliance projects coupled with rapidly rising construction costs. This results in compliance projects that are unaffordable to many rural communities.

A prime example of this problem is in the community of Cascade Shores in rural Nevada County, where septic failures caused many residents to convert to a community sewer system. Current State and Federal regulations, complicated by a landslide next to the existing plant, require the construction of a costly new wastewater treatment plant. Although the existing plant met the standards when it was constructed in 1996, it does not meet today's standards or those to be imposed in the next several years.

In order to meet the new standards a new wastewater treatment plant was designed and is nearing completion. The project includes an inlet manhole, two inlet screens, lift station, flow equalization tank, parshall flume, two trains of MBBR systems enhanced activated sludge process using anoxic and aerobic zones to remove organic matter BOD and TSS, and nutrients nitrogen and ammonia, two DAF (dissolved air floatation) units, two membrane filters, two inline ultraviolet disinfection units, clear water re-aeration tank, effluent mag meter, transfer pumps, blowers, an aerobic sludge digester, a building containing the treatment facilities, and an odor control unit.

NCSD1CS and its consultants have worked with the County and State to complete the financial plan to fund the $4,500,000 project cost and related expenses. In order to construct this new facility it was necessary to increase the sewer charges of this small rural community to an annual sewer charge of

$2,445 is second highest in the State and this clearly shows a commitment to water quality for this community of 81 households with a median income of $36,000.

There are several reasons for this "disconnect" between the goal of cleaner water and the regulations designed to achieve this goal. These fall under three categories: Regulations and Implementation Policies, Minimum Mandatory Penalties, and Availability of Grant Funding.

Nevada County Sanitation District No. 1 has been working with dischargers, stakeholders, regulators, and legislators to develop actions to address those three categories.

Comments and Recommendation:

The following are the Nevada County Sanitation District No. 1 comments on the California Regional Water Quality Control Board- Central Valley Region Basin Plan Triennial Review:

The Water Quality Control Plan for the Sacramento and San Joaquin River Basins (Basin Plan) was adopted in 1975 and, in most respects, has not been reviewed and analyzed to determine if the standards contained in the Basin Plan are still appropriate today.

At the time these standards were adopted, the Central Valley Regional Water Quality Control Board intended to review and update the standards as more information became available. Unfortunately, a lack of regular funding has kept the Regional Board staff from performing the studies necessary for regular updates to occur. As a result, discharge conditions and other regulatory controls are being imposed based upon standards that were adopted thirty years ago. The Central Valley Regional Water Quality Control Board has been recommending for years that these reviews and updates be funded and implemented. The Regional Board's position in this matter is outlined in its 2005 triennial review of the Basin Plan as adopted by Resolution No. R5-2006-0027.

California Coalition for Clean Water (CCCW) prepared a white paper "Reassessing California's Water Quality Program" in 2004 that summarizes the most significant problems with California's approach to water quality regulations and provides specific recommendations to address these problems. CCCW is an alliance of local governments and public agencies, labor, agriculture, business, housing and development interests. Member groups include California State Association of Counties and Regional Council of Rural Counties. Their paper included a number of case studies supporting their evaluation. Case Study 9 was regarding the Cascade Shores Wastewater Treatment Facility discharge to Gas Canyon (copy of the white paper is attached). In general, CCCW concurs with the Regional Board's recommended Basin Plan updates.

It is our opinion that the two issues in the Basin Plan that are instrumental in the disconnect between the goal of cleaner water and the regulations for achieving this goal are "Beneficial Use Designations" and "Regulatory Guidance to Address Water Bodies Dominated by NPDES Discharges". We feel that these issues need to be updated to reflect a more practical approach to treated effluent discharge of small dischargers in rural areas.

Nevada County Sanitation District No. 1 is committed to water quality and looks forward to the development of a Strategic Plan that will help small rural communities achieve water quality goals in an affordable manner on a sustained basis.

If you have any questions, please feel free to contact me at (530) 265-7103.

Sincerely,

MARK MILLER
Nevada County Sanitation District No. 1

Gordon Plantenga
Wastewater Operations Manager

GP:ms

Enclosures

cc: Nevada County Sanitation District No. 1 Board of Directors
Sanitation District Advisory Committee
District Administrator, Richard Haffey
Kennedy/Jenks, Attention: Ken Shuey
RWQCB, Attention Pamela Creedon and Diana Messina
CVCWA, Attention Debbie Webster

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California Coalition for
Clean Water

REASSESSING CALIFORNIA'S WATER QUALITY PROGRAM

FEBRUARY 2004

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REASSESSING CALIFORNIA'S WATER QUALITY PROGRAM

Background and Summary

The scope of California's water quality regulatory system is rapidly expanding. Unfortunately, this expansion of regulations and permit restrictions has done little to achieve the goal of improved water quality. Recent permit restrictions, new rules, and reinterpretations of previously adopted rules impose requirements on municipalities, businesses and farmers that are unachievable with current technologies, not clearly linked to specific health or environmental goals, or based on outmoded science. Hundreds of millions of dollars have been spent to try to implement, correct or legally challenge these new mandates. Future costs are expected to be significantly larger.

This white paper summarizes the most significant problems with the state's water quality regulatory program as currently being implemented and proposes several corrective measures that can be used to generate greater public interest and debate about this important environmental issue. California's water quality program must demonstrably improve water quality rather than impose ineffective requirements that divert limited resources from solving more significant problems. A reassessment of California's water quality program is consistent with newly elected Governor Arnold Schwarzenegger's stated priorities and objectives. In his second act after taking office (EO S-2-03), the Governor ordered that state regulations adopted since 1999 be reexamined to determine if their economic impacts are justifiable relative to their benefits and whether each meets significant statutory requirements, including necessity, clarity, consistency and non-duplication.

Much of California's water quality regulatory program does not meet these tests. Many rules and new interpretations of old rules have been improperly adopted, rely on inappropriate science, are inconsistently applied, and divert public and private resources from more pressing social objectives. Water quality standards are being reinterpreted and applied in ways for which they were never intended, often at great expense and with little tangible benefit. Selected case studies of these problems are provided in the attached Appendix A. While California residents support clean water in general, surveys consistently show an unwillingness to pay for measures that produce marginal benefits at the expense of other public services. (*see* Coalition for Environmental Protection, Restoration and Development, *Funding Total Maximum Daily Load Development and Implementation in the Los Angeles Watershed: A Survey of Public Attitudes and Potential Options*, April 2003.) This is one reason why the State Water Resources Control Board (State Board) has reportedly received over 300 petitions—an all-time record—seeking to revise or amend various elements of recently issued permits, enforcement orders and current and proposed water quality rules.

The following recommendations are suggested to respond to these problems and to assure that California's water quality regulations reflect coherent, science-based policy:

- *Independent Audit.* An independent audit of the state's regulatory system modeled on the National Academy of Science-National Research Council's review of the federal TMDL approach (*see* National Research Council, *Assessing the TMDL Approach to Water Quality Management*, 2001) or recently completed reviews of the Central Valley and Los Angeles Basin Plans (*see* California Resources Management Institute, *A Review of the Administrative Record for the Central Valley's Water Quality Control Plan: 1975-1994,* September 2003; Environmental Defense Sciences, *A Review of the Los Angeles Basin Plan Administrative Record,* February 2003) should be performed to identify program reform priorities and best practices from other states.

- *Review of Standards Prior to Implementation.* All water quality standards to be utilized in the development of permit requirements and total maximum daily loads (TMDLs), including beneficial use designations and federal and State water quality objectives, must be reassessed, verified and adjusted as necessary, and subject to the reviews mandated in Water Code Sections 13241 and 13242 prior to implementation. These reviews should occur either in conjunction with triennial reviews of the basin plans or as part of the TMDL process.

- *Conformance with 13241 and 13242 Factors.* The public interest and impact assessments identified in Water Code Sections 13241 and 13242 should be implemented fully when new regulations or standards are proposed.

- *Resolve Statewide Inconsistencies.* Inconsistent regulatory interpretations promulgated by the state's nine Regional Water Quality Control Boards (Regional Boards) should be addressed and harmonized by means of an expedited review process and development of necessary criteria and policies at the state level and by modifying as necessary the respective functions and responsibilities of the State Board and the Regional Boards.

- *Dispute Resolution by Independent Decision Makers.* Conflicts regarding water quality permit terms or rules should be resolved by independent administrative law judges or mediation rather than relying on internal agency conflict resolution processes.

- *Reinstitute the State Grant Program.* To assist in achieving clean water and to assure that regulators more carefully consider the costs and benefits of new rules, the state government should return to its historic practice of directly funding attainment of the water quality regulations it enacts.

Key Water Quality Regulatory Problems

The federal Clean Water Act (CWA) and the state's Porter-Cologne Water Quality Control Act (Porter-Cologne) provide the primary legal basis for controlling discharges into California waters. The state has been delegated authority by the federal Environmental Protection Agency (USEPA) to implement the CWA. Both the CWA and Porter-Cologne are administered by the State Board and nine Regional Boards.

Under this system, the state issues federal National Pollutant Discharge Elimination System (NPDES) permits, state Waste Discharge Requirements (WDRs) and conditional waivers from state WDRs that must be consistent with regionally adopted water quality control plans (basin plans). Each Regional Board adopts a basin plan for the area under its jurisdiction. The basin plan identifies specific "beneficial uses" (*e.g.*, recreation or fishing) for the waterbodies it oversees and the "water quality objectives" (*e.g.*, levels of constituents such as dissolved oxygen or bacteria) —that are supposed to protect each beneficial use. A "beneficial use" and an associated "water quality objective" jointly comprise a "water quality standard" as required by the CWA.

State and federal water quality programs have achieved enormous benefits since 1972, when the CWA was first enacted, by requiring major pollution sources such as factories and publicly-owned treatment works (POTWs) to install federally mandated treatment technologies. Under this technology-based approach, industries and POTWs were required to install the best "available" or "practicable" treatment facilities respectively to protect water quality.

In recent years, federal and state water quality programs shifted focus from a technology-based approach to achieving water quality standards (many of which were incorporated into basin plans during the mid-1970's without sufficient analysis or consideration) irrespective of health or ecological risks, cost or practicality. Under this new approach, TMDLs, NPDES permits, WDRs, or, in the case of agriculture, conditional waivers of WDRs have increasingly required that industries, POTWs, cities, and counties, home builders, businesses, flood and stormwater management agencies and farmers and ranchers implement whatever actions may be necessary to achieve basin plan standards. It is increasingly apparent that large public and private expenditures will be required to achieve this goal. Porter-Cologne requires that Regional Boards consider economics and other public interest factors prior to adopting water quality standards. Yet, many current standards were developed at a time when the costs required to meet them were not foreseen and without regard for such statutorily mandated considerations.

The following sections highlight the most significant problems with California's current and emerging water quality regulatory system.

A. Inappropriate Water Quality Standards

Both state and federal law require that water quality standards be supported by sound science and measured against other important social goals. Many of the standards now being applied throughout the state were developed in a haphazard fashion soon after the CWA was first authorized and lack a sound scientific foundation. Few have also been balanced against other public priorities.

These shortcomings were not crucial in the past because the initial regulatory focus of the CWA was on the implementation of treatment technologies to control industrial and POTW sources. At that time, these discharges were minimally treated and were causing relatively clear environmental and health problems. But the recent extension of historically deficient standards to such activities as urban runoff, industrial stormwater, farming, construction, wastewater management, and reclaimed water are generating the need for enormous new public and private expenditures without a showing of necessity or effectiveness. Significant problems with current water quality standards include the following:

- Most of California's water quality standards were not developed in accordance with Porter-Cologne requirements to consider economics, the level of water quality that can reasonably be achieved through the coordinated control of all factors affecting an area's water quality, and other public interest factors, and to specify a detailed program of implementation. Many are also based on decades-old, outmoded science and lack the necessary monitoring information required to assess their effectiveness and perform updates during basin plan triennial reviews. (*see* supra, *A Review of the Administrative Record for the Central Valley's Water Quality Control Plan: 1975-1994* and *A Review of the Los Angeles Basin Plan Administrative Record.*)

- Many standards were developed only to regulate discharges from factories, POTWs and similar traditional "point" sources and were never intended to be used to control stormwater from urban areas, construction sites or farming. They are also often inappropriate for the regulation of short-term high flows during storms or floods (*see* supra).

- Concrete-lined, fenced, no-access storm drains are being designated as recreational areas subject to the same water quality protections as bathing beaches (*see* Case Studies, Appendix A).

- Ephemeral washes and engineered wastewater channels that depend on effluent for their flows are being designated as municipal drinking water supplies subject to strict water quality standards. Meeting these requirements will involve unprecedented expense. Yet, none of the affected waterways are presently or likely to ever be used for drinking water purposes. (*see* supra, *A Review of the Administrative Record for the*

Central Valley's Water Quality Control Plan: 1975-1994 and *A Review of the Los Angeles Basin Plan Administrative Record.*)

- Ephemeral washes and engineered wastewater channels that support wildlife habitats are being designated as recreational areas that must meet public beach bacterial standards even though wildlife waste accounts for exceedance of the bacterial standards in the affected water. (*see* supra, *A Review of the Administrative Record for the Central Valley's Water Quality Control Plan: 1975-1994* and *A Review of the Los Angeles Basin Plan Administrative Record*, supra.)

- Many basin plans improperly incorporate drinking water Maximum Contaminant Levels (MCLs) that are supposed to maintain water quality *at the tap*, not define raw surface water objectives. This results in unnecessary and duplicative requirements since all such raw water supplies are treated prior to public use and achieve applicable MCLs when consumed (*see* Case Studies, Appendix A).

- Many basin plans improperly incorporate "secondary" MCLs as water quality objectives even though the state does not require that drinking water providers, particularly in groundwater-dependent communities, meet these secondary MCLs (*see* Case Studies, Appendix A).

- Basin plan objectives often disregard naturally occurring sources (natural sources of bacteria and turbidity) or natural conditions (dissolved oxygen, temperature, pH) and attainment of such objectives will likely require the collection and treatment of runoff from urban, agricultural and wetland areas, and possibly natural watersheds. Achieving these objectives is frequently justified as necessary to protect wildlife. Yet, if successfully implemented, such policies would paradoxically require changing natural conditions or eliminating supplemental flows, such as agricultural and urban drainage waters, on which wildlife actually depend. Although the associated costs are estimated to range from tens to hundreds of billions of dollars, the health and ecological benefits of this approach appear to be slight. (*see* supra, A *Review of the Administrative Record for the Central Valley's Water Quality Control Plan: 1975-1994* and *A Review of the Los Angeles Basin Plan Administrative Record.*)

- Some basin plans impose water quality objectives for pesticides that are below the level of detection, an effectively "zero" discharge requirement that is technically and practically unachievable without banning all pesticide use in the state, including both urban and agricultural use.

- Current regulations apply many of the same water quality standards to all waterbodies in a basin plan watershed. The same beneficial uses and objectives applied to a mountain stream are also being used to regulate

ephemeral washes, effluent flows, concrete channels, and agricultural drainages (*see* Case Studies, Appendix A).

- Many standards do not reflect the important societal need to conserve water and encourage water reclamation, as even tertiary treated recycled water is not considered clean enough to enter some waterbodies (despite its suitability for use on food crops). Some cities and districts discharging such highly treated water are being required to implement additional, extremely expensive technologies that will generate water so clean that compounds actually would have to be put back into the water before discharge (*see* Case Studies, Appendix A).

- TMDLs targeting chemical residues in water in the parts per quadrillion range are being adopted that that are based on conservative, hypothetical risks to people and the environment, rather than actual, substantial risk. Meeting these TMDLs will require extraordinary effort and cost without producing commensurate benefits. POTWs could be required to add additional, expensive treatment technologies. Port, harbor and waterfront development costs could increase because submerged sediments dredged for shipping or construction may contain residues above the TMDL limits. Meeting the new targets will likely divert resources from economic development, employment, and more important waste treatment investment priorities (*see* Case Studies, Appendix A).

B. Inappropriate Implementation of Standards

California regulators are now attempting to enforce basin plan water quality standards regardless of practicality or demonstrable need in NPDES permits, WDRs, general permits, conditional waivers for agriculture and in newly-adopted TMDLs. Since many of the applicable standards were not developed in accordance with the requirements of Porter-Cologne, and are technically flawed or otherwise inappropriate, permit provisions and TMDLs based on such standards are also problematic. New permit provisions and TMDLs require measures that are economically impracticable, technically unachievable, and which produce few or no benefits. Examples of inappropriate implementation of standards include the following:

- Historically, municipal stormwater permits issued by the state were consistent with the CWA in requiring municipalities to implement "best management practices" (BMPs) and to reduce the pollutant discharges to the "maximum extent practicable" (MEP). More recent permits, however, have abandoned the MEP approach in favor of requiring municipal stormwater discharges to comply with water quality standards regardless of practicality. Since there are no proven BMPs for attaining many of the standards being incorporated into current permits (*e.g.*, bacteria or metals), the new provisions logically require that municipalities expend enormous

sums of money to collect and treat stormwater runoff prior to discharge (*see* Case Studies, Appendix A).

- Industrial discharge permits increasingly require that water quality standards be met at the point of discharge rather than near the discharge point and after assimilation occurs. This approach improperly applies standards designed to protect health due to *direct* human contact over a 70-year period as an "end of pipe" mandate without regard for the actual contact risks and costs (*see* Case Studies, Appendix A).

- Industrial discharge permits increasingly include stringent numeric effluent limits, including CTR criteria, for facilities that only discharge stormwater.

- Many municipal waste permits "freeze" mercury limits at current levels although the presence of mercury in the environment is almost entirely due to unrelated factors, such as drainage from abandoned mines. These limits threaten to restrict growth and economic development in the affected areas without significantly improving water quality.

- Permits for some small communities require the removal of nitrogen or total dissolved solids from wastewater to protect groundwater even though the regional groundwater supplies fully comply with drinking water standards and the affected discharges will not have a measurable impact on groundwater quality. (*see* Case Studies, Appendix A.)

- Municipal dischargers of treated wastewater are being required to implement tertiary treatment and disinfection to reduce bacteria in effluent-dependent waters, other low-flow streams, and agricultural drains to levels *100 times more stringent* than state beach and recreational area standards although these flows are rarely, if ever, used for recreation (*see* Case Studies, Appendix A).

- POTWs have been issued waste discharge permits that contain limits for salts based on 1985 United Nations (UN) "agricultural goals" for salt-sensitive crops even though the downstream water is not, and will not be used for salt-sensitive crops. In some cases, salt levels in state-approved groundwater supplies exceed the purported UN "standard," thus illogically preventing the use of safe *drinking water* supplies for crops. Compliance with the UN salt limit and similar *ad-hoc* criteria would force municipalities either to implement very costly treatment or to divert their discharges away from receiving waters, thus depriving farmers of the irrigation water on which many growers depend (*see* Case Studies, Appendix A).

- POTWs have been issued permits that contain limits based on water quality objectives, such as for bacteria, that cannot feasibly be attained in the affected receiving waters due to natural or uncontrollable sources. Even if the treated water meets the new standards, the receiving waters will still exceed them. Compliance with such limits would require very costly treatment without evidence that any health or ecological benefit would result (*see* Case Studies, Appendix A).

- Waste dischargers have been issued permits that prohibit bypassing of individual treatment units during periods of high storm flows even though blended discharges during these periods comply with all effluent and receiving water standards (*see* Case Studies, Appendix A).

- New organophosphate pesticide objectives only allow for one exceedance in three years. Although these standards are achievable 90% to 95% of the time, a once-in-three-year compliance level is not achievable during unavoidable storm flows, which may cause short-term "pulses." Scientific risk-based assessments demonstrate that a 90% to 95% compliance level adequately protects human health and the environment.

- Narrative basin plan provisions are being improperly translated throughout the state into numerical limitations that lack appropriate, quantifiable justification. Narrative toxicity standards, for example, are being used to develop low numerical sediment cleanup targets that are being, or will be enforced as TMDL goals by many Regional Boards. Similarly, narrative standards for solid, suspended, or settleable materials and floating material have been translated into requirements for zero trash discharges (*see* Case Studies, Appendix A).

- Several Regional Boards have misapplied the state's Sources of Drinking Water Policy (Resolution No. 88-63), which requires Regional Boards to designate waters as suitable for municipal use only if certain exceptions stated in the Policy do not apply. Many Regional Boards inappropriately designate waters for municipal use without conducting the necessary reviews required to properly apply the Policy.

- Dischargers are being denied the ability and opportunity to develop alternatives for attaining off-stream water quality objectives (i.e., for municipal and irrigated agricultural uses). Some Regional Boards strictly require that beneficial uses be protected within the applicable receiving waterbody instead of allowing for the full protection of off-stream beneficial uses through alternative measures.

- Natural channels that convey stormwater runoff from municipal storm sewer systems (MS4s) are being regulated as both receiving waters and

MS4s even though they are not owned, altered or operated by municipality.

- Regional Boards typically calculate water quality-based effluent limits by using the worst-case steady-state model rather than the more realistic dynamic modeling techniques recognized by USEPA.

C. Inconsistent Regulation

The expansion of California's water quality regulatory program has also generated a growing number of policy inconsistencies among the state's nine Regional Boards. (*see* California Department of Finance, *A Review of the Department of Transportation's Storm Water Management Program*, November 2003.) Examples of key areas of inconsistent regulatory application throughout the state include:

- Some counties and cities are subject to the jurisdiction of two or even three different Regional Boards. Consequently, parts of a single community may be required to meet different stormwater regulations and document stormwater programs before multiple Regional Boards (*see* Case Studies, Appendix A).

- Some Regional Boards require permit holders, such as cities and towns, to meet goals that can be achieved with existing and affordable approaches while others impose obligations without regard to practicability or economic and technical feasibility;

- Some Regional Boards extend water quality standards and enforcement upstream from regulated waters to include constructed drains (and potentially gutters or curbs) while others apply standards only to actual waterbodies within a watershed;

- Some Regional Boards believe urban stormwater controls should focus on regional solutions while others require the implementation of BMPs for each home, commercial property, parking lot and other specific sites within an urban area;

- Some Regional Boards utilize mixing zones and dilution credits to establish permit limits and to evaluate compliance with water quality standards while others routinely deny the use of mixing zones and dilution credits;

- Some Regional Boards, in calculating hardness-dependent objectives, utilize average hardness values while others utilize the maximum recorded values;

- Some Regional Boards require communities to address trash and other "floatables" as part of the TMDL program and subject to CWA liability while others control such constituents by means of litter ordinances and public education;

- Some Regional Boards use advisory water quality guidelines or "criteria" suggested by other organizations (such as the federal Environmental Protection Agency, the European Union, the state Department of Fish and Game, the state Department of Health Services, or the United Nations) as if they were formally and properly adopted water quality objectives while others do not;

- Some Regional Boards interpret the State Board's 1968 "antidegradation policy" to mean that no new molecules may be added to a waterbody while others interpret the policy to mean that there must be a significant increase before triggering the requirements of a comprehensive antidegradation analysis;

- Some Regional Boards impose mass limits based on current mass loading on discharges to impaired waters until TMDLs are completed while others do not;

- Some Regional Boards apply State Department of Health Services rules for using treated wastewater directly on food crops to the discharge of reclaimed water into natural waters that, after the mixing of such waters, may be used for food crop irrigation while others apply these rules only to the direct reuse of treated wastewater on food crops; and,

- Some Regional Boards calculate interim performance-based effluent limits by using mean plus three standard deviations while others use maximum effluent concentrations, or the 95th percentile.

Recommended Responses

The extension of inappropriate water quality standards through new regulations, permit provisions and inconsistent policies, if not abated, will cause the misallocation of billions of dollars of public and private resources. Several corrective measures are recommended to assure that California's water quality protection system clearly achieves its legislative objectives and significant public benefits, including the following:

(1) Commission an Independent Audit

A qualified organization, such as the National Research Council of the National Academy of Sciences, should be commissioned by the state to perform an independent audit of the California's water quality standards and other program elements. The audit

should identify significant problems, compare California's approach with other states, and recommend corrective measures.

(2) Require a Standards Review Prior to Implementation

Currently adopted or proposed permits and TMDLs frequently are based on or incorporate scientifically deficient or inappropriately adopted water quality standards. The State Board should mandate that *all* water quality standards be reviewed pursuant to the requirements of the CWA and with reference to each of the factors listed in Porter-Cologne sections 13241 and 13242 prior to implementation. The review should occur as early as possible in conjunction with the triennial review of basin plans, prior to the listing of a waterbody as impaired pursuant to section 303(d) of the CWA, or as the first step in developing a TMDL. Standards that are not technically supportable or were not developed in accordance with Porter-Cologne requirements should be subject to reassessment and, if appropriate, modification prior to implementation.

(3) Fully Implement Porter-Cologne Requirements when Adopting New Regulations or Standards

The State Board should require that each Regional Board, prior to adopting proposed new regulations or standards, thoroughly consider the mandated public interest factors specified in Porter-Cologne section 13241 and develop a program of implementation as required by section 13242, consistent with the legislative intent set forth in section 13000.

(4) Achieve Statewide Consistency

The State Board should reconcile inconsistent rulemaking and development of permit provisions throughout California by implementing a consistency review process that allows for the rapid resolution of conflicting Regional Board approaches and results in guidance that assures that comparable water quality issues receive similar treatment. In the longer term, it may be necessary to modify the current State and Regional Board organizational structure to achieve water quality policy and implementation consistency throughout the state, including the shift of responsibilities currently vested in the nine Regional Boards to the State Board.

(5) Utilize Administrative Law Judges and Mediation to Resolve Conflicts

At present, permit and other appeals are overwhelming the State Board and frequently result in costly, lengthy litigation. In certain instances, the capacity of the Board to adequately consider disputes, and the role of the State Board's Office of General Counsel as a dispassionate analyst of the issues, are problematic. The use of administrative law judges trained to consider water quality issues and mediation to resolve contentious issues would substantially ease the burden on state and regional regulators and generate more consistent regulatory interpretations.

(6) Re-institute the State Clean Water Grant Program

During the 1970s and most of the 1980s, the EPA and the state funded most of the municipal costs required to meet permit requirements. As a result, municipalities received essential financial assistance and state and federal regulators had incentives to assure that public funds were not wasted on unreasonable or unnecessary projects that did not substantially improve water quality. These incentives have eroded under the current system because regulated communities and businesses largely fund directly the measures state and federal regulators impose. A return to state regulatory funding would refocus public and regulatory attention on the costs and benefits of various water quality options, properly spread the costs among the state as a whole, and encourage regulators to more fully consider the costs and benefits of the policies they adopt.

References

California Department of Finance, *A Review of the Department of Transportation's Storm Water Management Program*, November 2003.

California Resource Management Institute, *Review Of The Administrative Record For The Central Valley's Water Quality Control Plan 1975 – 1994*, September 2003.

Coalition for Environmental Protection, Restoration and Development, *Funding Total Maximum Daily Load Development and Implementation in the Los Angeles Watershed: A Survey of Public Attitudes and Potential Options*, April 2003.

Environmental Defense Sciences, *Review of the Los Angeles Basin Plan Administrative Record*, February 2003.

National Research Council, *Assessing the TMDL Approach to Water Quality Management*, (National Academy of Science, 2001).

APPENDIX A

Case Studies

1. Ballona Creek -- Potential REC-1 De-Designations
2. Central Valley – Agriculture Monitoring and Testing Requirements
3. City of Vacaville -- Tributary Rule
4. City of Vacaville -- Wet Weather Blending
5. County of Los Angeles -- MS4 Permit
6. County of Los Angeles -- Trash TMDL
7. Feather River -- Denial of Acute Dilution Credit
8. Feather River -- Use of Secondary MCLs as Effluent Limits
9. Gas Canyon Creek -- Nitrate, Turbidity and Bacteria Treatment
10. Harding Drain -- Tertiary Treatment of Discharge
11. Los Angeles River -- Restrictions on Tertiary Treated Recycled Water
12. Riverside County -- Multiple Regional Board Jurisdictions
13. San Francisco Bay Area -- Denial of Dilution Credit for Industrial Point Source Discharges
14. San Joaquin River -- Use of Superseded Basin Plan Objectives
15. Southern California -- Individual Industrial Stormwater Permits
16. TMDLs for Trace Chemical Residues Not Shown to Present Significant Risk
17. Upper Santa Clara River -- Chloride Standards
18. Upper Santa Clara River -- Nitrogen Standards
19. Walnut Grove -- Basin Plan Beneficial Uses
20. Yolo By-Pass -- Use of Unadopted Water Quality Standards

Case Study 1

BALLONA CREEK
POTENTIAL REC-1 DE-DESIGNATIONS

Issue: Failure to amend the Los Angeles basin plan as recommended by Regional Board staff and as indicated by a Use Attainability Analysis (UAA) to de-designate inapplicable beneficial uses for the upper and middle reaches of Ballona Creek.

Affected Parties: County of Los Angeles, Los Angeles County Flood Control District, City of Los Angeles, Culver City (April 2003).

Summary of Regional Board Action: In April 2003, with the concurrence of the US EPA, the Los Angeles Regional Board staff issued a draft UAA examining the applicability of REC-1 (contact recreation) beneficial uses for Ballona Creek. According to the UAA, REC-1 beneficial uses were not currently or in the foreseeable future capable of being attained in most of the channel. The UAA found that the upper reach of the creek (a rectangular concrete channel) lacks public access and carries largely insignificant dry weather flows. Flows during wet weather are hazardous to public safety. The middle reach of the creek (a trapezoidal concrete channel) was found to have limited legal public access and to be subject to the same dry and wet weather flows as the upper reach. Based on these findings, the Regional Board staff recommended that: (1) potential REC-1 beneficial uses for the upper and middle reaches be de-designated in the basin plan; (2) the upper reach of Ballona Creek be designated as potential REC-2; and (3) the middle reach be designated as "potential limited REC-1." Although little or no testimony contradicting the staff findings was ever presented, the Regional Board rejected the staff recommendations and did not amend the basin plan consistent with the UAA findings because of concerns that such amendments might "chill" efforts to return Ballona Creek to a more natural state.

Inappropriateness of the Action: Section 101(a)(2) of the Clean Water Act states that the national goal is to attain fishable, swimmable, and drinkable water in the nation's waterways wherever those activities may be attainable. The UAA provided uncontradicted evidence that the REC-1 designation (i.e. full-contact swimming and related activities) was not attainable in the upper reach of Ballona Creek and might someday be achievable in the middle reach of the creek only to a very limited extent. These findings were reviewed and approved by US EPA. Accordingly, the Region Board should have voted to implement the staff recommendations and amend the basin plan to reflect true use designations as required by state and federal law.

Implications: Maintaining the potential REC-1 beneficial use designation means that body contact water quality objectives and associated standards will still be applied throughout the length of Ballona Creek, even where they are demonstrably inappropriate. As a result, surrounding communities will be required to implement costly treatment systems to ensure compliance with these objectives despite the fact that such measures will not generate commensurate human health or other benefits.

CENTRAL VALLEY AGRICULTURE MONITORING AND TESTING REQUIREMENT

Issue: Imposition of new requirements to monitor and test agricultural drains and ditches to determine compliance with water quality standards applicable to beneficial uses in downstream, natural waterbodies.

Affected Parties: Irrigated agriculture throughout the Central Valley (July 2003)

Summary of Regional Board Action: In July 2003, the Central Valley Regional Board adopted a conditional waiver from waste discharge requirements that included an unprecedented monitoring and reporting program for irrigated lands within the Central Valley. The new monitoring and reporting program requires farmers, collectively or individually, to design and implement an extensive monitoring program to determine the concentration and load of agricultural pollutants discharged to surface waters. This information is to be used to evaluate compliance with basin plan narrative and numeric water quality objectives that were developed to protect beneficial uses of generally natural, downstream waterbodies such as rivers or lakes. The program mandates that monitoring sites initially be established for major agricultural drainages. Eventually, all smaller drainage will become subject to monitoring as may be necessary to meet program goals.

Inappropriateness of the Action: Agricultural drains and ditches are human-created, effluent dominated water bodies. The new program inappropriately extends beneficial uses and water quality objectives that may be applicable to downstream, natural waterbodies to agricultural drains designed solely to carry agricultural tailwater to the surface water system. Many downstream water users, in fact, rely on agricultural tailwater for irrigation, instream uses, water quality dilution and other beneficial uses. The quality of agricultural tailwater should more appropriately be evaluated and regulated only after such flows enter and mix with regional, mainstem water bodies for which actual designated beneficial uses exist, not within the upstream drainage system where such uses do not exist.

Implications: The cost of the new monitoring and testing requirements is estimated to range from $7,500 to $14,000 per year for individual farmers. These costs would exceed the net earnings of many small family farms in the Central Valley. Despite such unprecedented burdens, few if any benefits will be realized because the affected agricultural drainages are not used, and were not designed to ever be used, for beneficial uses that may be applicable to downstream waterbodies.

Case Study 3

CITY OF VACAVILLE
TRIBUTARY RULE

Issue: Improper interpretation of the "tributary rule"

Affected Party: City of Vacaville (March 2001)

Summary of Action: The Central Valley Regional Board issued a NPDES permit to the City of Vacaville regulating the discharge of secondary treated wastewater to Old Alamo Creek, an effluent-dominated waterbody. This permit assigned drinking water (MUN) and cold water habitat (COLD) beneficial uses to Old Alamo Creek based on an interpretation of the basin plan's "tributary rule" to the effect that all tributaries of a waterbody for which beneficial uses have been designated are to be regulated as if they support the same uses. In October 2002, the State Board upheld this interpretation of the tributary rule, but suggested that since the MUN and COLD uses did not actually exist in Old Alamo Creek, the basin plan should be amended.

Inappropriateness of Action: The Regional Board's administrative record indicates that the tributary rule was never intended to displace science and empirical evidence in the designation of beneficial uses. In 1994, the Board staff noted that "[t]he tributary footnote [i.e., the tributary rule in the basin plan], intended as a temporary palliative for the lack of beneficial use information...is being misunderstood and misused by various parties." Despite clear evidence that Old Alamo Creek does not and cannot support MUN and COLD uses, the Regional and State Boards concluded that the tributary rule acted to "designate" such uses for the creek and that a basin plan amendment would be required to correct this problem. The amendment process involves a formal use attainability analysis (UAA) that will take from 3-5 years to complete and cost approximately $1-2 million.

Implications: Due to the misapplication of the tributary rule, MUN and COLD designations were improperly applied to Old Alamo Creek. This resulted in much more stringent discharge limits that will require advanced treatment at a potential cost of $240 million even though the "uses" to be protected do not actually exist. Despite this misdesignation, the Regional and State Boards are requiring the completion of a formal basin plan amendment and a UAA process that is unnecessarily costly, time-consuming and uncertain. The Regional Board has estimated that it would take as long as 20 years to properly amend the basin plan should other dischargers be required to complete formal amendments and UAAs to address additional tributary rule-related misdesignations.

CITY OF VACAVILLE
WET WEATHER BLENDING

Issue: Prohibition of wet weather blending.

Affected Party: City of Vacaville (March 2001)

Summary of Regional Board Action: During peak wet weather flows, Vacaville has in the past blended primary and secondary treated effluent by routing certain peak flows around the biological portions of the treatment process to prevent washout. All flows are then recombined prior to discharge, and combined flows comply with all permit limitations. Blending is a common POTW practice that has been approved by the US EPA. The Central Valley Regional Board has recognized that blending is reasonable and lawful in prior permits. In a previous tentative permit, the Board contended that blending was illegal (a position it later reversed in the final permit). However, regardless of its position regarding the legality of blending the Board ultimately adopted a permit that prohibited blending and set a compliance schedule for eliminating the practice. On appeal, the State Board upheld these permit provisions.

Inappropriateness of Action: The Regional Board improperly based its permit terms on an informal US EPA document titled, "EPA's Current Draft Thinking." The EPA has stated that it has not yet developed a formal blending policy or provided guidance on this issue. On appeal, the State Board determined that blending constituted an illegal "bypass" in violation of federal law (e.g., 40 C.F.R. section 122.41(m)) although the appropriate federal agencies have recently confirmed that blending is not prohibited during storms if such a practice is consistent with water treatment facility design. No findings or evidence was cited by the State or Regional Board indicating that any water quality benefit will be achieved by means of the blending prohibition.

Implications: To comply with the new permit, Vacaville must either expand its secondary treatment facility to handle peak flows that may occur only once or twice per year, or construct temporary storage basins and pumping facilities. The required capital costs are approximately $50 million, and operation and maintenance costs will be approximately $500,000 per year. No benefit will accrue from the additional facilities since the City's blended flows comply with all permit limitations.

COUNTY OF LOS ANGELES
MS4 PERMIT

Issue: Application of California Toxics Rule (CTR) criteria to a municipal separate storm sewer systems (MS4) permit

Affected Parties: County of Los Angeles and most incorporated cities within Los Angeles County (December 2001)

Summary of Regional Board Action: In December 2001 the Los Angeles Regional Board adopted an NPDES permit for Municipal Storm Water and Urban Runoff Discharges from municipal sources within Los Angeles County and most incorporated cities within the County. Consistent with the CWA, the Regional Board stated that the permit was intended to induce the development of a storm water pollution control program to the "maximum extent practicable" (MEP). However, the permit terms prohibit discharges from MS4s that "cause or contribute to the violation of Water Quality Standards or water quality objectives." The permit defines these standards and objectives in terms of certain fixed numeric limitations contained in the CTR. As result, the permit terms will be violated by any discharge that exceeds the CTR numeric limits irrespective of duration or practicality. The permit also does not contain "safe harbor" language that protects municipalities from third-party lawsuits if exceedances of water quality criteria occur during storm or other short-term weather events.

Inappropriateness of Action: Stormwater discharges are intermittent and unpredictable, and the quantity of flow, duration, and levels of contamination in stormwater vary widely. Fixed, numeric water quality criteria such as those provided in the CTR were never intended to be imposed directly as effluent limitations for stormwater discharges. Under federal law, stormwater discharges are to be controlled to the MEP. (CWA §402(p).)The new permit inappropriately utilizes the CTR criteria in a fixed fashion and potentially requires the collection and advanced treatment of large quantities of water to assure compliance under all flow scenarios, including short-term rain and flood events. The permit fails to provide permit holders with standard protections against third-party lawsuits because it lacks a "safe harbor" provision, which specifies that dischargers that implement reasonable best management practices (BMPs) are considered to be in compliance with the permit provisions.

Implications: Compliance with the permit's inappropriate CTR criteria will be costly and technically difficult. The enhanced risk of third-party lawsuits will increase permit related expenses. No specific water quality benefits have been identified as a result of the new limitations. At present, the MS4 permit is the subject of litigation.

Case Study 6

COUNTY OF LOS ANGELES
TRASH TMDL

Issue: Nation's first trash TMDLs mandated that "zero" trash be discharged into area waterways

Affected Parties: County of Los Angeles, City of Los Angeles, and other Los Angeles County cities (September 2001)

Summary of Regional Board Action: The Los Angeles Regional Board adopted a total maximum daily load (TMDL) for trash in the Los Angeles River watershed that requires permittees to reduce the level of trash in receiving waters to zero over a ten-year period. This requirement is based on a narrative water quality objective in the Los Angeles basin plan stating that *"[w]aters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses."*

Inappropriateness of Action: The Regional Board failed to consider social and economic impacts as required by State law when it first adopted the narrative water quality objective for solid, suspended, or settleable materials. These same legal requirements were also not met when, years later, the Regional Board attempted to implement the objective by means of the trash TMDL. The Regional Board failed to provide support establishing a relationship between specific levels of floatables (trash) in receiving waters and the impairment of any specific beneficial uses. Little evidence was also provided in support of the Board's finding that the implementation of the trash TMDL would have no other significant environmental impacts.

Implications: There is no practical way to achieve a zero trash limit. As a result, the TMDL subjects local government to nearly permanent enforcement and third party litigation exposure. Compliance costs rise substantially with each successive reduction of trash loads. The County of Los Angeles estimated that it would cost the City of Los Angeles and County of Los Angeles $640 million over 10 years to reduce trash discharges by 90%. The costs of achieving close to a 100% reduction would likely be substantially higher. In setting the zero trash target, the Regional Board failed to consider the economic implications or the potential impacts to other public services caused by the TMDL. In December 2003, a state court held that the Regional Board abused its discretion when it (1) failed to conduct a cost/benefit analysis of the trash TMDL, (2) failed to consider economic impacts as required by state and federal law, (3) did not adequately analyze environmental impacts, and (4) failed to conduct assimilative capacity studies which might have shown that a trash "target" other than zero was appropriate (Case No. GIC 803631, San Diego Superior Court).

FEATHER RIVER
DENIAL OF ACUTE DILUTION CREDIT

Issue: Refusal to grant an acute dilution credit in setting certain NPDES permit discharge limits

Affected Parties: City of Yuba City (June 2003)

Summary of Regional Board Action: The Central Valley Regional Board denied a dilution credit for acute criteria when Yuba City's NPDES permit was issued in June 2003. Where conditions are appropriate, dilution credits are commonly incorporated into NPDES and similar permits because constituents often disperse rapidly after discharge into a receiving water to acceptable levels. The City's permit contains unusually stringent effluent limits for copper, zinc and ammonia because the Regional Board refused to grant the City an acute mixing zone and dilution credit.

Inappropriateness of Action: At the Regional Board hearing on the permit, Regional Board staff stated that the City had submitted no evidence in support of mixing zones and dilution. In reality, the City submitted several supporting studies and was willing to submit any other information that the Regional Board might request. No such additional information was requested or identified by the Regional Board. The studies showed that the City's discharge is completely mixed within two river widths and that all acute criteria are achieved, even under worst case conditions, in a matter of seconds after discharge and within a few feet of the diffuser. Using the formula set forth in the state's Policy for Implementation of Toxics Standards (SIP), the City's discharge properly qualified for an acute dilution credit of 66.4:1. Such a credit would significantly reduce the City's cleanup requirements to more reasonable and practicable levels.

Implications: To meet the adopted effluent limits for copper, zinc and ammonia, the City may need to build a reverse osmosis facility at a cost of approximately $57 million. The City's bond counsel has indicated that it is unlikely that the City will be able to sell sufficient bonds considering the City's size and ability to service the associated debt. Even if the facility could be financed, this facility would do little to improve water quality because applicable acute criteria are currently met within a few seconds after discharge.

Case Study 8

FEATHER RIVER
USE OF SECONDARY MCLS AS EFFLUENT LIMITS

Issue: "Secondary" Maximum Contaminant Levels (MCLs) applicable to tap water used as effluent limits for wastewater discharge

Affected Parties: City of Yuba City (June 2003)

Summary of Regional Board Action: The Central Valley Regional Board applied statewide MCLs, drinking water standards promulgated by the California Department of Health Services or USEPA that apply at the tap, to establish effluent limits for the Feather River. "Primary" MCLs set constituent levels that are necessary to protect the public from acute and chronic health risks in the water they consume. "Secondary" MCLs describe less crucial goals affecting public acceptance criteria (e.g. water taste and odor). The Central Valley Regional Board opted to apply tap water based secondary MCLs for iron and manganese to establish effluent limits for Yuba City's discharge into the Feather River.

Inappropriateness of Action: Neither primary nor secondary MCLs are properly used as discharge effluent limits because all California surface waters, including the Feather River, must be filtered and treated prior to domestic water use. This mandated filtration reduces iron and manganese in all tap water to levels that are below the applicable secondary MCLs. The Regional Board's misapplication of the secondary MCLs as a waste discharge limit means that the City must meet a standard intended to be achieved at the tap, and which is already being achieved by filtration of domestic water supplies. This duplicates drinking water filtration requirements and costs.

Implication: The City's new discharge limits are duplicative and will increase the cost of wastewater treatment. To meet secondary MCLs for manganese and iron in its effluent, the City would have to add filtration facilities similar to those used at its water treatment plant to the end of its wastewater treatment plant. The same water quality protections are already afforded by the drinking water filtration system that serves the City's residents. No additional benefit will be achieved by applying the same standards to Yuba City's wastewater discharge. Moreover, the City's discharge is only 1% of the river flow and the river already exceeds iron levels upstream of the discharge. Consequently, the treatment of the City's effluent will have little impact on changing the levels of iron downstream of the City's discharge point.

GAS CANYON CREEK
NITRATE, TURBIDITY AND BACTERIA TREATMENT

Issue: Small foothill community required to treat its discharge to levels applicable to tap water and to meet bacteria standards significantly higher than required for swimming and other water contact recreation.

Affected Parties: Nevada County Sanitation District No. 1, Cascade Shores (June 2001)

Summary of Regional Board Action: The Central Valley Regional Board required Cascade Shores, a local sanitation district that serves 83 customers, to treat its discharge to achieve: (a) the drinking water maximum contaminant level (MCL) for nitrate (10 mg/L); and (b) the state Department of Health Services Title 22 requirements for (1) the spray irrigation of food crops, and (2) unrestricted recreational impoundments (a 7-day median coliform of 2.2/100 ml. and a monthly average turbidity of 2 NTU). The rationale for these requirements was that the district's discharge flows down Gas Canyon Creek into Greenhorn Creek, and, after flowing for eight miles, eventually reaches Rollins Reservoir. The reservoir is a tributary to the Bear River, which is located farther downstream. Designated uses for the Bear River include domestic water supply, water contact recreation, and agricultural irrigation. The Regional Board concluded that the beneficial uses designated for Bear Creek also apply to Gas Canyon Creek.

Inappropriateness of Action: The district's requirements do not conform with the basin plan objective for water contact recreation (200 fecal coliform/100 ml). In addition, drinking water MCLs apply at the tap, not to the raw water supply. Finally, the DHS Title 22 regulations were promulgated to address the specific, direct reuse of reclaimed water, not to regulate discharges into other waters of the state prior to eventual reuse. The district's discharge limits misapply standards developed for other purposes and result in unnecessary additional treatment requirements.

Implications: To meet the discharge goals, Cascade Shores must construct new facilities estimated to cost between $500,000 and $1,000,000. In 2002/2003 the annual charge for residents of Cascade Shores was $910 per dwelling unit. The recently adopted 2003/2004 annual charge has been increased to $1,795 per unit. These expenditures will generate few benefits. Gas Canyon Creek is completely dry in the summer months. Treated effluent discharges during this period (the equivalent of flow from 2-1/2 garden hoses) are so minute that they disappear into the ground a short distance after release. In the winter, when there is flow in the creek, the district's discharge is substantially diluted well before it reaches any downstream areas in which water is actually put to beneficial use. At present, and without implementation of the new treatment requirements, downstream waters are not impaired for municipal water supply, water contact recreation, or agricultural uses. The district's expenditures will not substantially enhance water quality or further protect designated beneficial uses.

Case Study 10

HARDING DRAIN
TERTIARY TREATMENT OF DISCHARGE

Issue: Treatment of wastewater to tertiary levels, and bacteria effluent limits for discharge to a constructed drain that are 100 times more stringent than standards that apply to beaches used for swimming

Affected Parties: City of Turlock (May 2001)

Summary of Regional Board Action: To protect the beneficial uses of water contact recreation and agricultural irrigation designated for the Harding Drain and the downstream San Joaquin River, which is located at least five miles downstream from the City of Turlock's point of discharge, the Central Valley Regional Board required the City to add coagulation and filtration to achieve a total coliform bacteria limit of 2.2/100 ml. The City's previous bacteria limit was 23/100ml. The Regional Board stated that the requirement for tertiary treatment was based on state Department of Health Services (DHS) guidance and regulations.

Inappropriateness of Action: The basin plan objective for the protection of water contact recreation is 200 fecal coliforms/100 ml, a standard based on EPA-recommended water quality criteria for public bathing beaches. The DHS has adopted the same limit for ocean beaches. Harding Drain is not used for swimming. Nevertheless, the Regional Board adopted a coliform limit that is approximately 100 times more stringent than the bacteria limit that would apply if Harding Drain were used as a public beach. The basin plan sets forth no treatment or bacteria standards intended to protect agricultural beneficial uses. The DHS regulations applicable to the direct reuse of reclaimed wastewater on food crops do not apply in this case because the City's effluent is not directly used for irrigation. Consequently, the adopted limit does not reflect established, legally applicable contact recreation and agriculture water quality objectives.

Implications: As a result of the new bacteria requirement, the City of Turlock will be required to construct new facilities estimated to cost $20 million. A 60% increase in residential user charges will be necessary to fund construction and operation of the new facilities. Little or no benefit, however, will be realized by these expenditures. Harding Drain is not used for swimming or for irrigation of food crops. In addition, unregulated sources of fecal coliform render the drain unfit for these uses irrespective of the level of treatment provided by the City.

Case Study 11

LOS ANGELES RIVER AND ITS TRIBUTARIES
RESTRICTIONS ON TERTIARY TREATED RECYCLED WATER

Issue: Stringent restrictions on discharges of recycled water from POTWs under NPDES permits in the Los Angeles River watershed

Affected Party: The Burbank Water Reclamation Plant, the Donald C. Tillman Water Reclamation Plant (Los Angeles), and the Los Angeles-Glendale Water Reclamation Plant

Summary of Regional Board Action: California law encourages the development of recycled water for domestic, agricultural, industrial, recreational, and fish and wildlife purposes. (Cal. Water Code § 13511–12.) The law also requires that recycled water be treated by tertiary treatment processes for most of these uses. The City of Burbank POTW was expanded to a tertiary treatment facility in 1971 and upgraded again in 1999 to reclaim wastewater for uses authorized under California law. Reclaimed water from the Burbank POTW that is not reused is discharged into the Burbank Western Wash, a tributary of the Los Angeles River. Two POTWs owned by the City of Los Angeles also treat reclaimed water to tertiary levels for legally approved uses and discharge excess supplies into the Los Angeles River. The Los Angeles Regional Board issued NPDES permits to the Burbank and Los Angeles POTWs containing effluent limits that were derived in part from narrative toxicity standards for the Los Angeles River.

Inappropriateness of Action: The effluent limits contained in the Burbank and Los Angeles permits were so low that even the tertiary-treated recycled water produced by the POTWs could not be discharged into the Los Angeles River or its tributaries. Tertiary treatment of wastewater is the level of treatment mandated for recycled water use within the state of California. The NPDES permit terms improperly imposed treatment levels for discharge into the river system that are more stringent than those statutorily required for approved domestic, agricultural, industrial, recreational, and fish and wildlife purposes. Meeting the NPDES numeric effluent limits will require additional treatment, including the use of reverse osmosis. This process will generate large amount of brine and other waste subject to further, costly disposal, remove minerals necessary to sustain aquatic life uses in the River, and erode the River's existing concrete-lined channels.

Implications: The NPDES permit terms effectively prohibit the realization of California's official policies that focus on expanding the use of tertiary-treated recycled water because they preclude the discharge of recycled water into waterbodies. Installation of treatment technologies necessary to comply with these terms at the Burbank and Los Angeles POTWs has been estimated to cost $50 to $185 million per year for construction, operation, and maintenance of reverse osmosis facilities, which does not include costs for disposing of the brine created by these facilities. (The permits at issue in this case study are the subject of ongoing litigation currently pending before the California Supreme Court.)

RIVERSIDE COUNTY
MULTIPLE REGIONAL BOARD OVERSIGHT

Issue: Multiple, often conflicting, water quality mandates from different Regional Boards for a single political jurisdiction.

Affected Party: Riverside County (County), Riverside County Flood Control and Water Conservation District (District) and various cities within the County.

Summary of Regional Board Action: Riverside County and District are regulated by three Regional Boards under three separate permits. Several cities are, or soon may be, regulated by two Regional Boards. The District serves as the Principal Permittee for all three Permits.

Inappropriateness of Action: Multiple Regional Board permitting activities within Riverside County have led to inconsistent water quality regulations and require the development of three separate compliance programs within the County. The multiple, and in some cases conflicting, requirements do not generate tangible, measurable improvements to water quality within the region.

Implication: As Principal Permittee, the District expends significant resources applying for, implementing and administering three Permits. During the past five years it is estimated that the District's cost of preparing two additional sets of reporting documents and two additional permit applications was nearly $2,000,000. Each of the other political jurisdictions incur similar, if not more extensive impacts from administration of multiple Permits, including:

- **Annual Reporting Takes Five Months.** Annual reports, each consisting of approximately 2000 pages of text, maps and charts, must be produced to comply with the Permits. The report formats must vary to meet the specifications of each RWQCB.
- **Preparation of Three Reports of Waste Discharge (ROWD).** Preparations of ROWDs (applications for renewal of the Permits) are similar in time commitment, scope and cost to the Annual Reports. However, the associated Permit renewal process, which can last approximately one year, significantly increases staff time, legal counsel, and consultant fee expenses. ROWDs must be prepared every five years.
- **Inability to Develop and Administer Cost Effective Regional Compliance Programs.** Each Permit requires programs that vary in scope and specificity and are not coordinated with requirements specified by other RWQCBs. The resulting increases in program costs have been significant.
- **Multiple Permit Renewals Unduly Burdens Permittee Core Functions.** The County of Riverside is required to review and modify its legal authority, ordinances and administrative procedures three times within a typical five-year permit cycle. The complex program development and implementation process diverts staff and resources from the County's public works, maintenance, planning, county counsel and other departments.

- **Multiple Permits Can Lead to Economic Inequities**. Regional Board permit programs to regulate new development, existing business, and construction sites vary significantly. This variability can lead to economic inequities within a single City, or subject all businesses within a City covered by multiple Regional Boards to the requirements of the most restrictive Regional Board permit. For example, the City of Murrietta is within the jurisdictional boundaries of two regional boards with two different stormwater permits. To comply with the Regional Board permits, the City may either create separate programs for different parts of the City or subject all businesses equally to the provisions of the most restrictive Regional Board permit. In other words, the more restrictive Regional Board permit overrides another Regional Board's program. In either case, inequities are created.

SAN FRANCISCO BAY AREA
NO DILUTION CREDIT FOR
INDUSTRIAL POINT SOURCE DISCHARGES

Issue: Issuance of NPDES permits that do not allow dilution credits for industrial point-source discharges

Affected Parties: Various affected parties, particularly in the San Francisco Bay area

Summary of Regional Board Action: Certain NPDES permit renewals for industrial point-source discharges do not allow for dilution credits. Dilution credits usually allow for higher numeric effluent limitations due to the assimilative capacity of a receiving waterbody. Certain Regional Boards have stated that the applicable waterbodies have no assimilative capacity, particularly with respect to constituents said to cause beneficial use impairments or that may bioaccumulate.

Inappropriateness of Action: The CWA and state policy expressly allow for dilution credits in calculating NPDES permit effluent limitations. In many instances, rigorous modeling and field tracer studies have been conducted to demonstrate that significant, dilution occurs near well-designed outfalls and diffusers. Nevertheless, the use of credits has been denied. This outcome is especially inappropriate in San Francisco Bay, where tidal flushing is significant, near-field dilution occurs at a 30:1 ratio, and far-field, long-term average dilution exceeds a ratio of 1000:1. The volume of the affected discharges is also very small relative to the total mass resident in the Bay estuary. There is no evidence that industrial point-source discharges are responsible for any elevated water column, biota or sediment constituent concentrations, even with respect to compounds that may bioaccumulate, or that the new effluent limitations will discernibly reduce ambient levels of constituents of concern.

Implication: Complying with the new NPDES effluent limitations in the absence of dilution credits will require expensive treatment facilities and costly investment by the affected industrial dischargers. Many of the effluent limitations are below analytical detection levels and involve particularly sophisticated treatment systems. These new facilities will not result in measurable receiving water quality improvements or reduce fish or sediment constituent concentrations.

SAN JOAQUIN RIVER
USE OF SUPERSEDED BASIN PLAN OBJECTIVES

Issue: Use of basin plan objectives that have been superseded by the California Toxics Rule in a municipal wastewater permit.

Affected Parties: City of Manteca (January 2004)

Summary of Regional Board Action: The Central Valley Regional Board staff issued a tentative order for the City of Manteca's NPDES permit that relies on outdated numeric objectives for copper, arsenic, cyanide, iron and manganese contained in the basin plan instead of using California Toxics Rule (CTR) criteria.

Inappropriateness of Action: The CTR issued by the US EPA (40 CFR §131.38) supersedes all promulgated and adopted California water quality objectives unless state standards are specifically referenced and preserved within the regulation. The CTR does not specifically state that Central Valley basin plan numeric standards used in this case apply in lieu of the CTR. Consequently, the Regional Board should have used the CTR criteria in the City of Manteca's NPDES permit.

Implications: The City of Manteca is currently spending $48 million to build a state-of-the-art water treatment facility to meet its 2001 NPDES requirements. The new facility, however, will not be able to meet the limits established in the Regional Board's most recent order for cyanide and iron (and maybe arsenic and manganese) that are based on the basin plan instead of CTR standards. The new facility would be adequate to meet most limits in question if CTR standards were utilized. Because of the Regional Board's failure to properly utilize the CTR limits, the City will need to consider building additional advanced treatment capabilities beyond those it will build to comply with its 2001 NPDES permit.

Case Study 15

SOUTHERN CALIFORNIA
INDIVIDUAL INDUSTRIAL STORMWATER PERMITS

Issue: Issuance of individual stormwater permits for industrial dischargers

Affected Parties : Various affected parties, particularly in southern California

Summary of Regional Board Action: Several Regional Boards have recently required industrial facilities that only discharge stormwater to obtain individual NPDES permits instead of regulating such facilities under the statewide general stormwater permit. These individual permits contain stringent numeric effluent limitations, including CTR criteria, and do not include "safe harbor" provisions that allow for compliance through the use of best management practices (BMPs).

Inappropriateness of Action: Although stormwater discharge timing, duration, quantity of flow, and level of contamination vary widely, the new effluent limitations fail to account for most of these complexities. The direct use of instream, average flow criteria as numeric effluent limitations is inappropriate for the regulation of stormwater discharges that occur in short pulses and which have unique dilution and other technical characteristics. In most cases, dischargers subject to the new individual permits do not evidence any of the typical regulatory triggers for a NPDES permit and should be regulated under the statewide general permit.

Implication: The industrial NPDES stormwater permits will likely require the collection and advanced treatment of stormwater from industrial facilities. There is no evidence that storm flows from these facilities significantly contribute to water quality impairment. Most industrial sites have implemented "good housekeeping practices" and BMPs that help minimize stormwater pollution. Consequently, industrial facility runoff is likely comparable to, and possibly of better quality than, runoff from adjacent non-industrial facilities, streets and roads. CTR criteria were never intended to be used as "never-to-be-exceeded" discharge limits for stormwater. Achieving these and other improperly specified permit goals will be costly and technically difficult. Nevertheless, there is little evidence that additional industrial stormwater treatment will measurably improve receiving water quality.

TMDLs For Trace Legacy Chemical Residues

Issue: Use of the TMDL program as a basis for imposing treatment obligations on highly-treated point source discharges, and undertaking large-scale cleanups of submerged sediments without evaluating the risks of such actions or whether corresponding benefits will occur. TMDLs for legacy chemicals typically target compounds that were banned long ago but continue to be discharged at trace levels from Publicly Owned Treatment Works (POTWs), and which remain at residual levels in submerged sediments in ports and harbors.

Affected Parties: Potentially all municipalities and others with discharges into waterbodies listed under the 303(d) program for legacy compounds (e.g., DDT, PCBs, dieldrin, toxaphene and chlordane). TMDLs for these substances can affect ports, city waterfront areas, and industries in the area of the submerged sediments. There are a number of 303(d) listings for such compounds, covering, among other waterbodies, San Francisco Bay, Newport Bay, Santa Monica Bay, Long Beach Harbor, and the Sacramento/San Joaquin Delta.

Summary of Agency Action: The State Board has included several waterbodies on the 303(d) list as impaired for compounds that are no longer manufactured or used within the United States. TMDLs are now being developed for many of these listings. For example, the Santa Ana Regional Board has begun to implement a June 2002 TMDL that limits DDT releases from a 154-square mile watershed to less than 1 kg per year. This is problematic considering the large amounts of DDT used by historical farming operations in the watershed. In January 2004, the San Francisco Regional Board released a draft PCB TMDL that would establish a sediment target of 2.5 parts per billion in San Francisco Bay. This value is many times lower than background levels in the deepest waters of the Bay.

Inappropriateness of the Action: California currently does not have sediment quality objectives (SQO) upon which to base TMDLs for legacy compounds in sediments. In fact, the State Board is currently working to develop SQOs, is scheduled to release draft objectives in August 2005, and has convened expert scientific and advisory panels to assist in this process. Even though California has not promulgated SQOs, certain Regional Boards are using a variety of methods and data to infer "safe" sediment levels. In some cases, the Regional Boards are applying non-regulatory benchmarks as if they were legally-adopted standards. Principal issues with these TMDLs include the following:

- Exceedances of water quality standards do not necessarily indicate that animals in the sediment are affected by the trace chemical residues, or that trace levels of legacy contaminants in fish pose a human health risk. In fact, concentrations of legacy compounds in most fish stocks are well below levels considered safe by the federal Food and Drug Administration.
- The TMDLs assume that people will eat the fish on a routine basis for decades, neglecting to consider the fact that concentrations in fish and in the environment are declining measurably over time, and often failing to consider that concentrations have already declined to levels considered safe.

- Implementation of these TMDLs could generate significant adverse environmental impacts (e.g., by stirring up settled sediments and potentially releasing high concentrations of sediment-bound, deeply buried contaminants, via diesel exhaust from dredging to remove the sediments). These impacts and the risks associated with remedial efforts have not been evaluated and should be subject to a full scale EIR-level of consideration.

Implications: Because the risks and environmental impacts of these proposed actions have not been considered, there is little scientific justification underlying the development or supporting the implementation of TMDLs that target legacy compounds in sediments. Further, in many cases it is unclear that such action is warranted, as residual levels of legacy compounds are declining, often to below levels that are considered "safe." The implementation of sediment TMDLs for legacy compounds likely will divert important public and private resources from significant economic and public priorities without generating commensurate benefits. Harbor and port dredging costs, wastewater treatment expenses, and industrial expenses may increase significantly to meet the substantial sediment treatment obligations required by the new TMDLs. Substantial negative environmental impacts may occur upon implementation of these TMDLs, including the potential for increased water toxicity due to disturbance of sediments that prevent the release of constituents of concern, and air pollution, truck traffic, noise and visual blight associated with such a large-scale process. Limited hazardous waste disposal sites may be utilized to store materials that are more readily and appropriately managed in place without environmental harm. Finally, the sediment targets of these TMDLs are not required or authorized by the federal Clean Water Act, are unique to California, and are not founded on consistent scientific bases. These actions will likely also conflict with SQO currently under careful development by the State Board.

Case Study 17

UPPER SANTA CLARA RIVER
CHLORIDE STANDARDS

Issue: Use of non-scientifically based chloride water quality standard in NPDES permits

Affected Parties : Los Angeles County Sanitation Districts (LACSD) (November 2003)

Summary of Regional Board Action: In November 2003, the Los Angeles Regional Board adopted new NPDES permits for LASCD's Saugus and Valencia Water Reclamation Plants (WRPs). The new permits include a chloride effluent limit of 100 mg/L as a monthly average (based on the basin plan) and a daily limit of 100 mg/L (based on an anticipated, but not yet adopted Upper Santa Clara River chloride TMDL). The basin plan standard was originally specified as a flow-weighted annual average at the end of the reach. It was never intended to be used as a "never-to-exceed" instantaneous maximum limit applicable at any point within a waterbody. The Regional Board stated that the 100 mg/L limit is required to protect salt sensitive crops such as avocados and strawberries. Scientific literature, historic water quality data and the fact that local avocado and strawberry growers have flourished despite less restrictive chloride limits demonstrate that the new standard is not required to protect agricultural beneficial uses in the affected watershed.

Inappropriateness of Action: There is no scientific or logical basis for reinterpreting a standard explicitly defined as a flow-weighted, end-of-reach target as an instantaneous maximum to be applied at every point within a waterbody, including at the point of discharge from the WRP. Avocados, strawberries and other salt sensitive crops are not grown within the water reaches into which the WRPs discharge or within 14 miles of WRP discharge locations. Avocado and strawberry farmers have raised crops in the area for years by relying on groundwater that is subject to a chloride objective of 200 mg/L. There is no evidence that any beneficial use is being or has been impaired by previously adopted, less restrictive WRP chloride limitations.

Implication: To meet the new chloride standards, LACSD will need to construct and operate microfiltration/reverse osmosis facilities, a 43-mile brine line to the Pacific Ocean and a 3-mile outfall for discharge to the ocean. The capital costs for these facilities are estimated to exceed $350 million and annual operation and maintenance costs will be approximately $10 million. These expenditures will quadruple existing Santa Clarita Valley Joint Sewerage System service rates and not result in any tangible improvement to applicable beneficial uses, including agriculture.

Case Study 18

UPPER SANTA CLARA RIVER
NITROGEN STANDARDS

Issue: Use of non-scientifically based nitrate and nitrite water quality standard in NPDES permits

Affected Parties : Los Angeles County Sanitation Districts (LACSD) (December 2003)

Summary of Regional Board Action: In December 2003, the Los Angeles Regional Board adopted a new NPDES permit for the LACSD's Valencia water reclamation plant (WRP). The new permit includes a nitrite and nitrate effluent limit of 5 mg/L, a basin plan standard apparently derived from the average of a few samples collected in the 1970s. The basin plan standard was originally specified as a flow-weighted annual average applicable at the end of the reach. It was never intended to be used as a "never-to-exceed" instantaneous maximum limit applicable at any point within a waterbody. The available evidence, including previous WRP permits that contained limits of 10 mg/L, shows that all beneficial uses have been and would continue to be fully protected by limits that are higher than those incorporated into the most recent NPDES permit.

Inappropriateness of Action: There is no scientific or logical basis for reinterpreting a standard explicitly defined as a flow-weighted, end-of-reach target as an instantaneous maximum to be applied at every point within a waterbody, including at the point of discharge from the WRP. The basin plan standards for nitrite and nitrate are not based on current water quality analyses or data and improperly rely on an inadequately small sample set. Available evidence shows that previously adopted NPDES nitrite and nitrate limits fully protect all receiving water beneficial uses.

Implications: To meet the new NPDES nitrite and nitrate limits, LACSD will be required to build new facilities at a capital cost of approximately $37 million and incur an additional $140,000 of annual operation and maintenance costs. This advanced treatment capability would not result in any tangible additional protection of beneficial uses in the affected waterbodies.

WALNUT GROVE
BASIN PLAN BENEFICIAL USES

Issue: Improper application of basin plan beneficial uses.

Affected Parties : Sacramento County Sanitation District No. 1 (June 2003)

Summary of Regional Board Action: The Central Valley Regional Board adopted a NPDES permit and waste discharge requirements for the Walnut Grove Wastewater Treatment Plant (WWTP) which discharges secondary and disinfected effluent during winter months to an unnamed agricultural drainage ditch. During this period, ditch water is pumped through a levee into Snodgrass Slough, which is a tributary of the Sacramento, Mokelumne, and San Joaquin Rivers. The ditch does not naturally discharge to any waters of the United States or to the Sacramento-San Joaquin Delta (Delta). The Regional Board subjected the ditch to basin plan designations and water quality objectives applicable to the Delta (including municipal, contact recreation and aquatic life beneficial uses) as if it was a water of the United States.

Inappropriateness of Action: The NPDES permit, and the Regional Board's counsel, acknowledged that the ditch may not be a water of the United States. There is no evidence that beneficial uses designated for the Delta, including municipal, recreation, or aquatic life uses, exist or can exist in the ditch. Based in part on the fact such uses are not present the State Board found that a stay of the NPDES permit would not cause any harm. Without evidence of use or potential for use, it is inappropriate to apply the Delta's beneficial use designations to the ditch solely because it discharges into a tributary of the Delta during the winter months.

Implications: To comply with the NPDES permit, the District must install tertiary treatment for the ditch discharge at an estimated capital cost of $2 million. Given Walnut Grove's population of approximately 700 people, this translates to nearly $2,900 per person. No benefits will be achieved by expenditures of this magnitude. As a result, the District is considering closing the Walnut Grove WWTP at a considerable, but lesser, cost and connecting to Sacramento County's regional wastewater treatment plant.

Case Study 20

YOLO BY-PASS
USE OF UNADOPTED WATER QUALITY STANDARDS

Issue: Inappropriate use of an inapplicable water quality guideline recommended in a 1985 United Nations (UN) study

Affected Parties: City of Woodland (March 2003)

Summary of Regional Board Action: In March 2003, the Central Valley Regional Board adopted a new effluent limit for electrical conductivity (EC) in the City of Woodland's NPDES permit. The EC limit was based on the Regional Board's interpretation of the basin plan's narrative objective for chemical constituents, which states in relevant part that *"[w]aters shall not contain chemical constituents in concentrations that adversely affect beneficial uses."* To interpret this narrative chemical objective, the Regional Board relied on a 1985 UN study that articulated broad guidelines for salt-impacted agriculture.

Inappropriateness of Action: The Regional Board used the UN guideline as if it were a formally adopted water quality objective thereby circumventing state and federal laws applicable to the adoption of objectives. The UN study was only intended as a general guide. Nevertheless, the Regional Board chose to adopt the most restrictive EC guideline considered in the UN study as one of the City's wastewater treatment limitations. This EC numeric guideline was thought by the UN study to protect the most salt-sensitive crops (e.g., strawberries) in all types of growing conditions. The study noted that all numeric guidelines, including the EC limit adopted by the Regional Board, must be adjusted to reflect local growing conditions, weather, and soil leaching due to irrigation. The facts that salt sensitive crops are generally not grown in the region and are unlikely to be grown were not considered. Also, the region's high rainfall, seasonal farming and winter flooding of the by-pass all reduce salt accumulation in the root zone and should have been considered prior to setting the appropriate salt level sufficient to protect crops.

Implications: To meet the EC effluent limit, the City may need to build a reverse osmosis facility that will cost approximately $50 million. These expenditures—approximately $1,000 for each of Woodland's 50,000 residents—will not generate significant benefits because no salt-sensitive crops are being or will likely be grown in the area affected by the City's discharge and salt build-up is attenuated by natural and agricultural factors to levels acceptable for agricultural activities occurring in the by-pass.